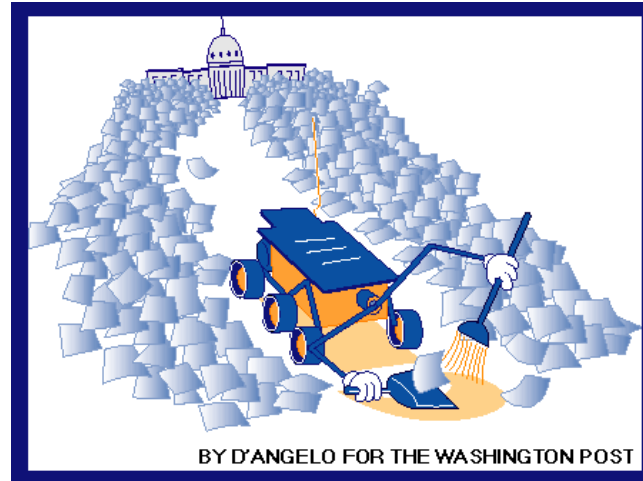
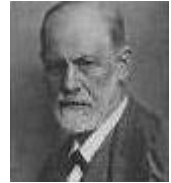


# NASA SBIR/STTR Technologies Management



## Using Electronic Handbooks (Where Shakespeare Meets Freud)



Dr. Barry E. Jacobs  
NASA/GSFC

# Objective:

## Develop Internet-based tools to support the paperless documentation and management of complex distributed processes.

Subprocesses - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://lincoln.gsfc.nasa.gov/intro/whatare/process.htm

CNN Wash Post NY Times SI Scoreboards NASAFCU Comcast File Hippo Bandwidth TV Guide ZDNet Summaries Horoscope Headlines

Google

### NASA SBIR/STTR Technologies

Product Realization Subprocesses												
Integrated Problems-Solutions Database	Solicitation Development	1 Submission	1 Review & Selection	1 Contract Negotiation	1 Contract Administration	1 Contract Closeout	2 Submission	2 Review & Selection	2 Contract Negotiation	2 Contract Administration	2 Contract Closeout	Post-Closeout

Product Distribution Subprocesses (Phase 3)							
Integrated Problems-Solutions Database	Technology Transfer Facility Guidelines Document Development	3 Problem Submission	3 Problem Review & Selection	3 Contract Negotiation	3 Contract Administration	3 Contract Closeout	Post-Closeout

Support Subprocesses										
SBIR/STTR Level I, Other SBIR/STTR Agencies, and SBA Support	Computer Systems Development and Evolution	Computer Systems Operations and Network Administration	Home Page Management	Education and Outreach Activities	Facilities Management	Security	Small Systems (Mac and PC) Support	Visualizations	Program Support Reporting	Quality Assurance

Improvement Subprocesses		
ISO 9001: 2000	CMMI- Staged	CMMI- Continuous

Common Subprocesses				
Organization Subprocess Formulation	Organization Subprocess Implementation	Organization Subprocess Customer Support	Organization Subprocess Evaluation	Organization Subprocess Closeout

Done

McAfee SiteAdvisor

Sat: 84° F Sun: 86° F Mon: 90° F

# Organizations provide different views of the subprocesses.

The screenshot shows a Mozilla Firefox browser window with the title "NASA SBIR/STTR Organizations". The address bar displays the URL "http://lincoln.gsfc.nasa.gov/intro/whatare/Organizations.htm". The page content is organized into two main sections, each with a yellow header:

### Product Realization Subprocesses Organizations

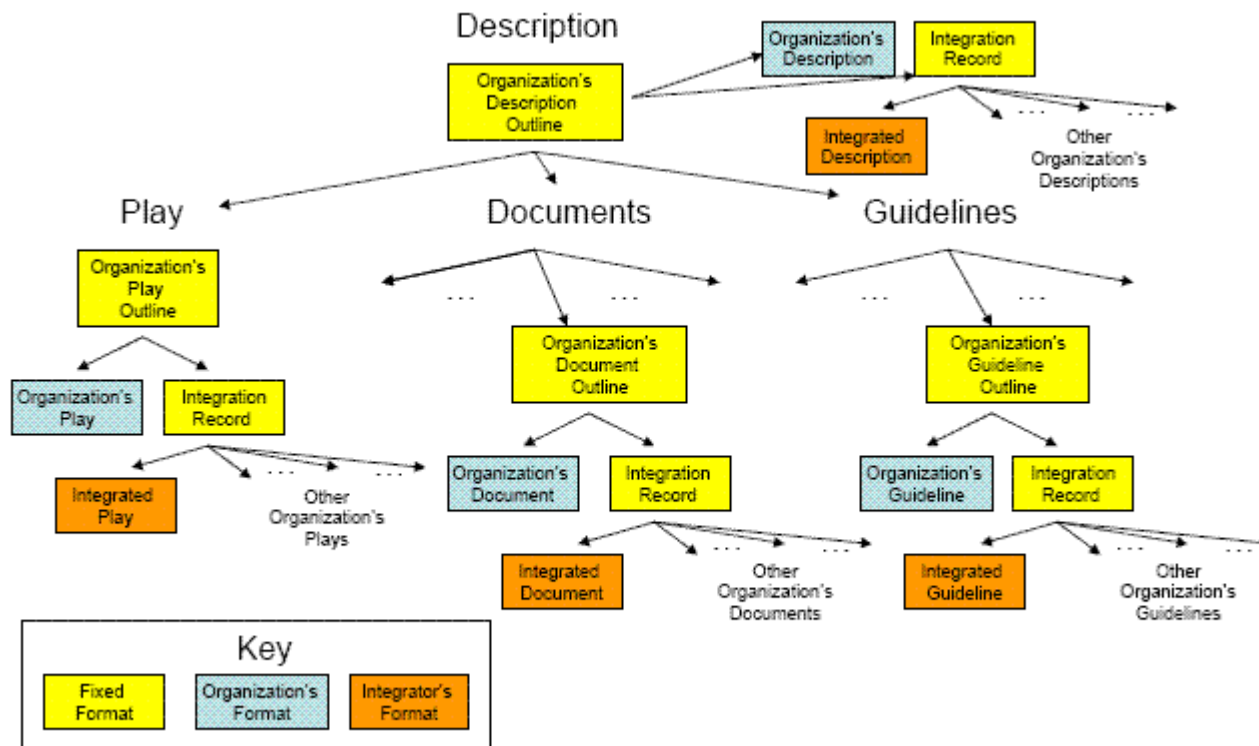
ARC SBIR/STTR Office
DFRC SBIR/STTR Office
GRC SBIR/STTR Office
GSFC SBIR/STTR Office
HQ SBIR/STTR Office
JPL SBIR/STTR Office
JSC SBIR/STTR Office
KSC SBIR/STTR Office
LaRC SBIR/STTR Office
NSSC SBIR/STTR Office
MSFC SBIR/STTR Office
Office of Exploration Systems SBIR/STTR Offices
Office of Aeronautics Research SBIR/STTR Offices
Office of Science SBIR/STTR Offices
Office of Space Operations SBIR/STTR Offices
SBIR/STTR PMO Office
SSC SBIR/STTR Office

### Product Distribution Subprocesses Organizations


ARC TCO
DFRC TCO
Far West-RTTC
GRC TCO
GSFC TCO
HQ ITTP Office
JPL TCO
JSC TCO
KSC TCO

The browser's status bar at the bottom shows the "Done" button, a "McAfee SiteAdvisor" icon, and weather information for Sunday (86°F), Monday (89°F), and Tuesday (89°F).

**Our basic approach is to wrap organization's subprocesses in a common envelope to facilitate learning and inter-organization communication.**



# Process Libraries maintain organization's views of the subprocesses.

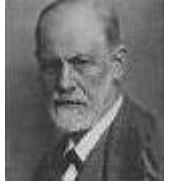


The screenshot shows a Mozilla Firefox browser window with the address bar displaying <http://ehbs.org/intro/summary/mock-ups/views.htm>. The page content includes a title 'Views', a count 'Total 11 Entries', and classification details: 'Classification: Product Realization Subprocesses (T4-00-00-00)' and 'Subprocess: Phase II Contract Administration (T4-3-00-00)'. A 'Create View' link is present above a table. The table has two columns: 'View' and 'Steps'. It lists seven entries, each with a link to the view, the name and email of the person, and a set of links for 'Update', 'Copy', and 'Delete'.

View	Steps
<a href="#">ARC -Phase II Contract Administration</a> Lee, Geoff (geoff.lee@nasa.gov)	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a>
<a href="#">DFRC -Phase II Contract Administration</a> Bogue, Rodney (rod.bogue@nasa.gov)	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a>
<a href="#">GRC -Phase II Contract Administration</a> Kim, Walter S. (walter.s.kim@nasa.gov)	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a>
<a href="#">GSFC -Phase II Contract Administration</a> Chern, Dr. E. James (Engmin.J.Chern@nasa.gov)	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a>
<a href="#">HQ -Phase II Contract Administration</a> Ray, Carl G. (carl.g.ray@nasa.gov)	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a>
<a href="#">JPL -Phase II Contract Administration</a> Schober, Wayne R. (Wayne.R.Schober@jpl.nasa.gov)	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a>
<a href="#">JSC -Phase II Contract Administration</a> Krishen, Dr. Kumar (kumar.krishen-1@nasa.gov)	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a>

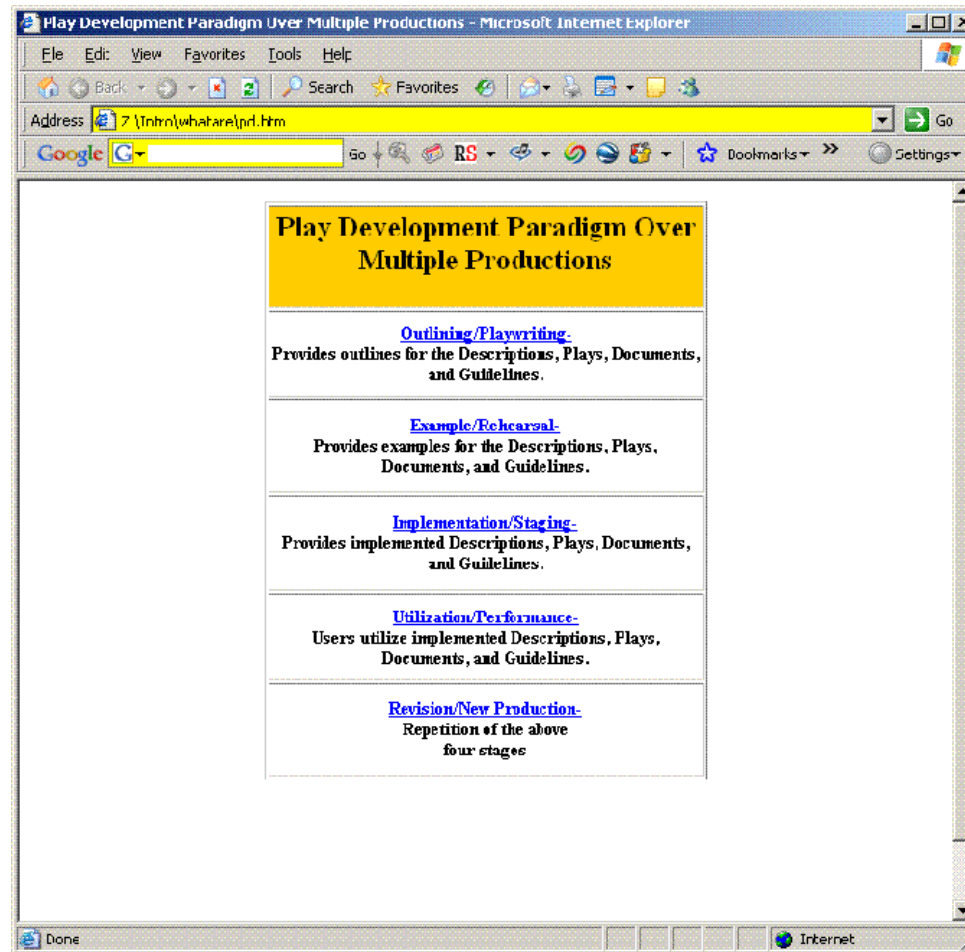


## **Electronic Handbooks (EHBs) is where Shakespeare meets Freud.**

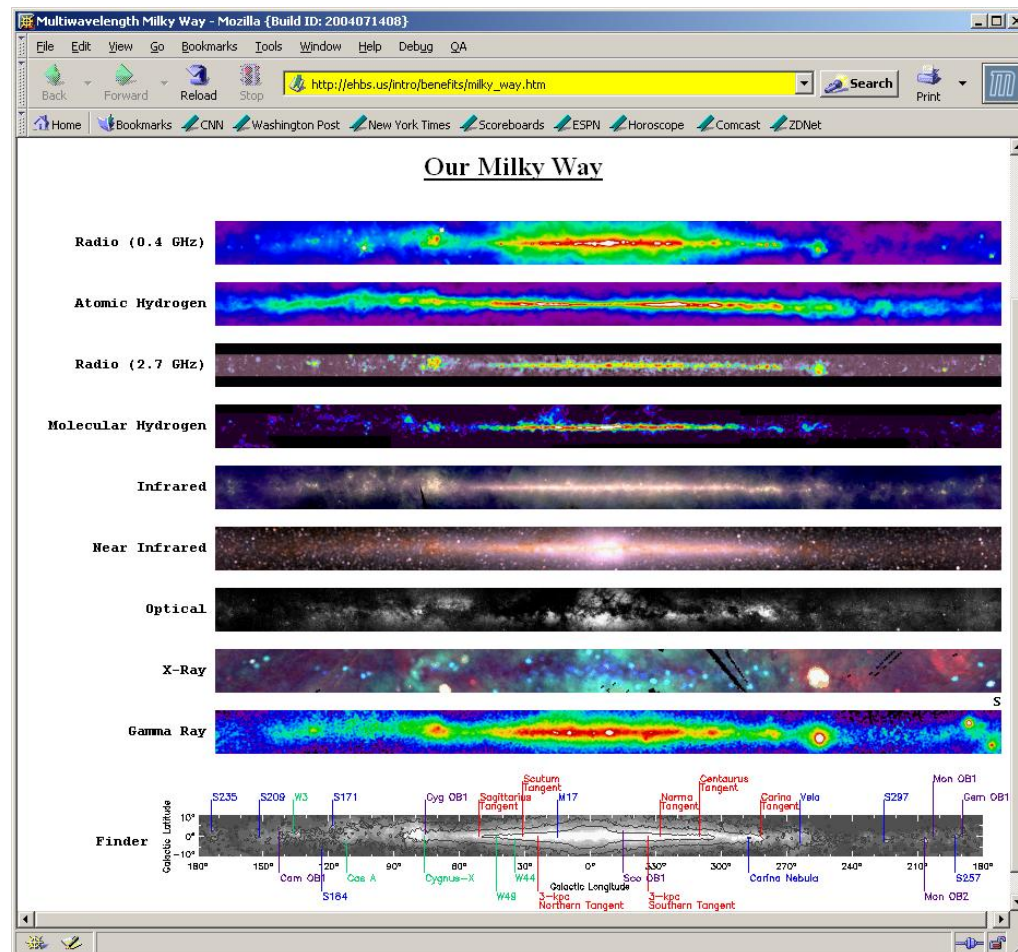


- Subprocesses are represented as "plays" where "actors" communicate thru the Internet. Each organization puts on its own "productions". For each role, EHBs guide actors thru their parts. [Shakespearean]
- Organizations are represented as "teams" having "multiple personalities". Subprocess "plays" provide communication vehicles between members of the same team, different teams, and teams from different processes. [Freudian]

# Subprocesses and EHBs are built and revised using the Play Development Paradigm Over Multiple Productions.



**We believe that to truly understand one's universe, one must see it thru multiple "eyes" and also have tools to "communicate" these views.**

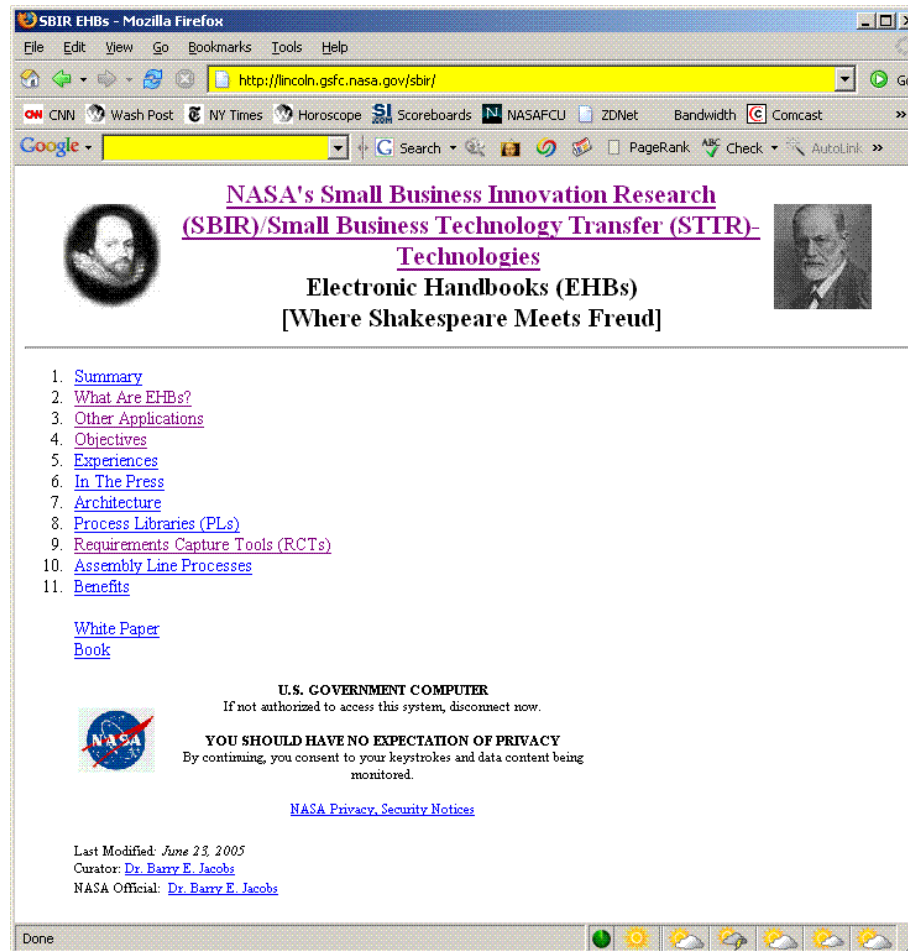




# Basic People Principles are supported by the envelope

- **Processes determine tools.** Tools should help people do their jobs as they see it. Forcing additional tools on people only adds more burdens to their jobs and they will likely ignore them. Additional requirements should be integrated into existing processes.
- **Everyone's processes should be supported as best as possible.** People see their jobs differently which is often a good thing for process improvement. Tools should facilitate rather than hinder this creativity. At the same time, tools should provide underlying mechanisms for unified multi-Organization data collection.
- **Tools are role-based so that data is collected during process execution.** As people partake in the processes, the data is automatically entered in the system. If data collection is done after the fact, the quality of the data generally suffers.
- **Tools are people-based so that users require minimal training.** Determining which steps to use in the tool should be obvious. For each of the substeps (i.e., forms and documents), there should be clear templates, instructions, and samples.
- **Tools are web-based so that all users can easily partake.** The effort needed to install special software on user's computers can take up an enormous amount of resources. This is especially the case if the number of participants is large.
- **Everyone helps build the tools.** Joint ownership in the processes and the underlying systems is crucial for overall acceptance.

# Demonstration Tools introduce the concepts to a community in their terms.



# Process Libraries are organized by subprocesses.

Subprocesses - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://lincoln.gsfc.nasa.gov/intro/summary/mock-ups/Subprocesses.htm

## Subprocesses


Total 17 Entries

[Create Subprocess](#)

Subprocess	Steps	SubLevels
<a href="#">Problem/Solution Database</a> (T01-3-00-00)	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a>	<a href="#">Subprocess Views</a> <a href="#">Subprocess Integrations</a> <a href="#">Subprocess RCTs</a>
<a href="#">Solicitation Development</a> (T01-4-00-00)	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a>	<a href="#">Subprocess Views</a> <a href="#">Subprocess Integrations</a> <a href="#">Subprocess RCTs</a>
<a href="#">Phase I Submission</a> (T01-5-00-00)	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a>	<a href="#">Subprocess Views</a> <a href="#">Subprocess Integrations</a> <a href="#">Subprocess RCTs</a>
<a href="#">Phase I Review &amp; Selection</a> (T01-6-00-00)	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a>	<a href="#">Subprocess Views</a> <a href="#">Subprocess Integrations</a> <a href="#">Subprocess RCTs</a>
<a href="#">Phase I Contract Negotiation &amp; Award</a> (T01-7-00-00)	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a>	<a href="#">Subprocess Views</a> <a href="#">Subprocess Integrations</a> <a href="#">Subprocess RCTs</a>
<a href="#">Phase I Contract Administration</a> (T01-8-00-00)	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a>	<a href="#">Subprocess Views</a> <a href="#">Subprocess Integrations</a> <a href="#">Subprocess RCTs</a>
<a href="#">Phase I Contract Closeout</a> (T01-8-00-00)	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a>	<a href="#">Subprocess Views</a> <a href="#">Subprocess Integrations</a> <a href="#">Subprocess RCTs</a>
<a href="#">Phase II Submission</a> (T01-10-00-00)	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a>	<a href="#">Subprocess Views</a> <a href="#">Subprocess Integrations</a> <a href="#">Subprocess RCTs</a>
<a href="#">Phase II Review &amp; Selection</a> (T01-11-00-00)	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a>	<a href="#">Subprocess Views</a> <a href="#">Subprocess Integrations</a> <a href="#">Subprocess RCTs</a>
<a href="#">Phase II Contract Negotiation &amp; Award</a> (T01-7-00-00)	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a>	<a href="#">Subprocess Views</a> <a href="#">Subprocess Integrations</a> <a href="#">Subprocess RCTs</a>
<a href="#">Phase II Contract Administration</a> (T01-8-00-00)	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a>	<a href="#">Subprocess Views</a> <a href="#">Subprocess Integrations</a> <a href="#">Subprocess RCTs</a>

Done

# View Tools show how organizations view their subprocesses.



**Views**

**Total 11 Entries**

Classification: **Product Realization Subprocesses** (T4-00-00-00)

Subprocess: **Phase II Contract Administration** (T4-3-00-00)

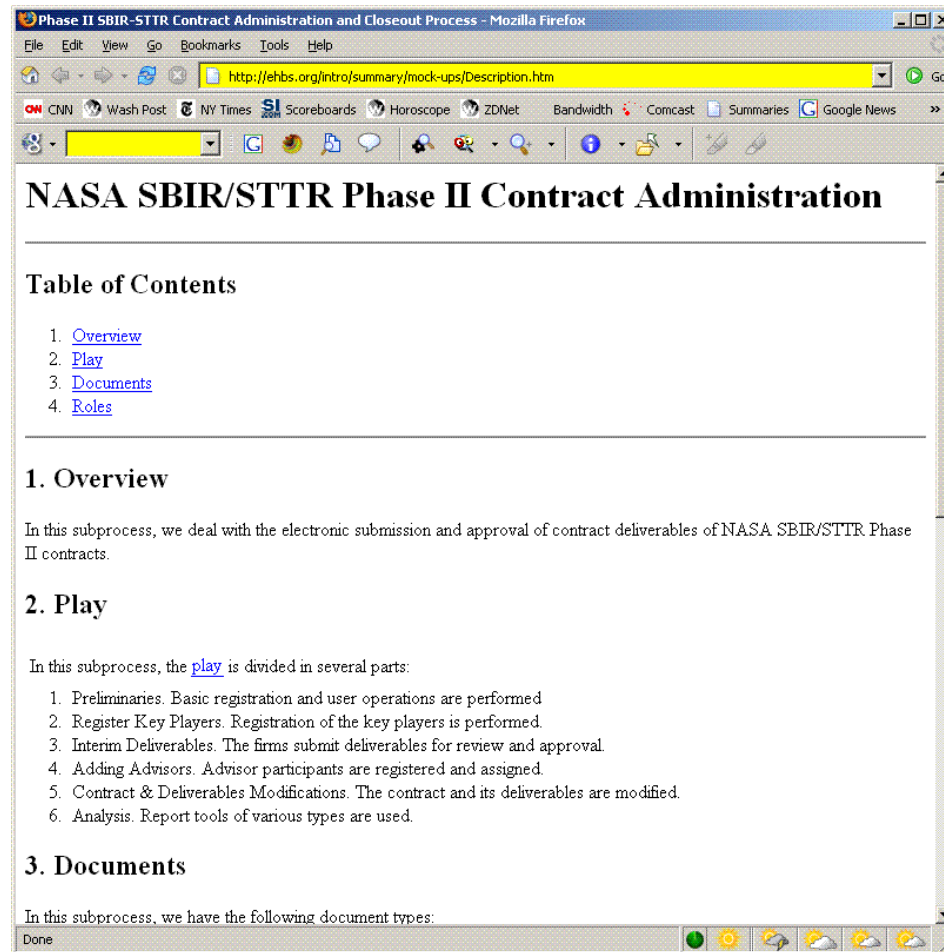
[Create View](#)

View	Steps
<a href="#">ARC -Phase II Contract Administration</a> Lee, Geoff (geoff.lee@nasa.gov)	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a>
<a href="#">DFRC -Phase II Contract Administration</a> Bogue, Rodney (rod.bogue@nasa.gov)	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a>
<a href="#">GRC -Phase II Contract Administration</a> Kim, Walter S. (walter.s.kim@nasa.gov)	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a>
<a href="#">GSFC -Phase II Contract Administration</a> Chern, Dr. E. James (Engmin.J.Chern@nasa.gov)	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a>
<a href="#">HQ -Phase II Contract Administration</a> Ray, Carl G. (carl.g.ray@nasa.gov)	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a>
<a href="#">JPL -Phase II Contract Administration</a> Schober, Wayne R. (Wayne.R.Schober@jpl.nasa.gov)	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a>
<a href="#">JSC -Phase II Contract Administration</a> Krishen, Dr. Kumar (kumar.krishen-1@nasa.gov)	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a>

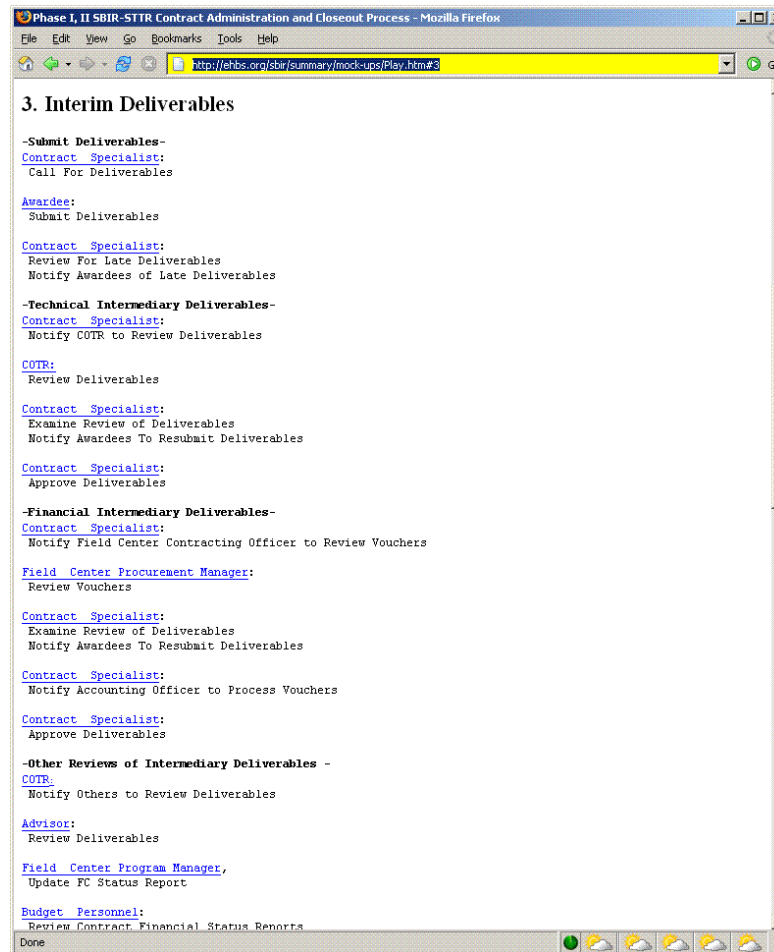
**An Organization's View Tool for a subprocess  
is comprised of four types of components:**

**Description,  
Play,  
Documents, and  
Guidelines**

# Descriptions summarize subprocesses.



# Plays describe subprocess execution.



# Documents describe subprocess data.

Update View - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://ehbs.org/intro/summary/mock-ups/view-record.htm#documents

[Create Document](#)

Related Documents	
<a href="#">Contract Sample</a> Lee, Geoff (geoff.lee@nasa.gov) <a href="#">Fetch</a>	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a> doc1 - ( Size: 2 KB ) <a href="#">Re-Upload</a>
<a href="#">Contract Award File Library Sample</a> Lee, Geoff (geoff.lee@nasa.gov) <a href="#">Fetch</a>	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a> doc2 - ( Size: 2 KB ) <a href="#">Re-Upload</a>
<a href="#">Deliverables Library Sample</a> Lee, Geoff (geoff.lee@nasa.gov) <a href="#">Fetch</a>	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a> doc3 - ( Size: 2 KB ) <a href="#">Re-Upload</a>
<a href="#">Reports Sample</a> Lee, Geoff (geoff.lee@nasa.gov) <a href="#">Fetch</a>	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a> doc4 - ( Size: 2 KB ) <a href="#">Re-Upload</a>
<a href="#">Suggestions Sample</a> Lee, Geoff (geoff.lee@nasa.gov) <a href="#">Fetch</a>	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a> doc5 - ( Size: 2 KB ) <a href="#">Re-Upload</a>
<a href="#">Subprocess Documentation</a> Lee, Geoff (geoff.lee@nasa.gov) <a href="#">Fetch</a>	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a> doc6 - ( Size: 2 KB ) <a href="#">Re-Upload</a>

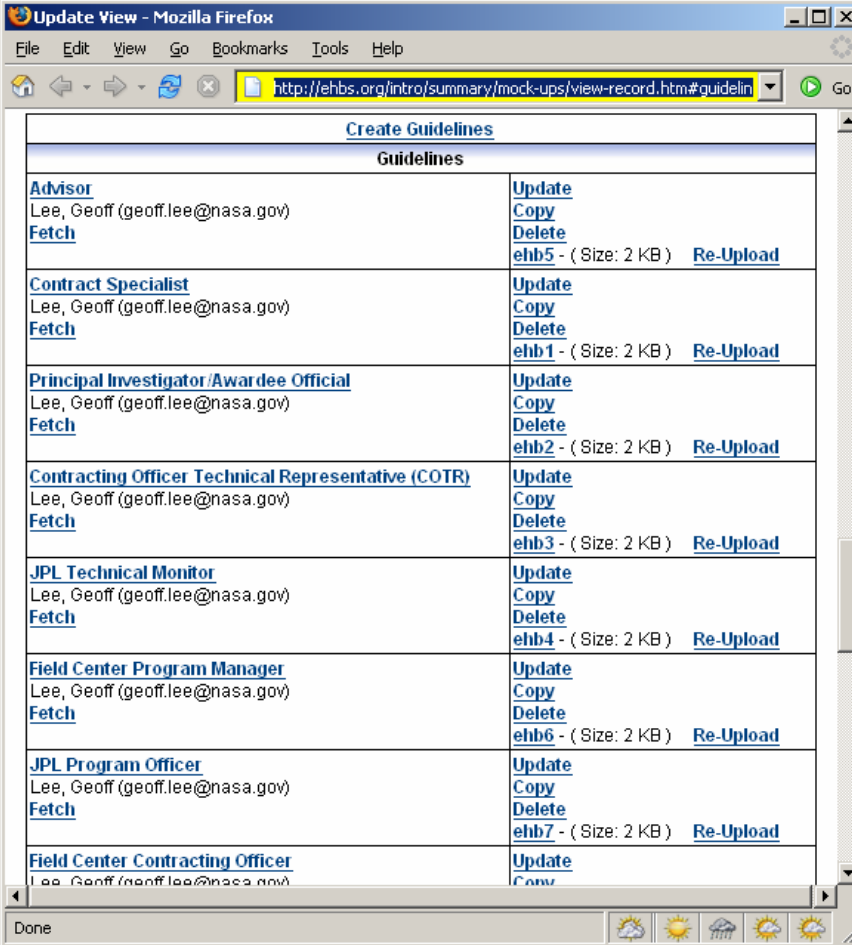
[Create Guidelines](#)

Guidelines	
<a href="#">Advisor</a> Lee, Geoff (geoff.lee@nasa.gov) <a href="#">Fetch</a>	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a> ehb5 - ( Size: 2 KB ) <a href="#">Re-Upload</a>
<a href="#">Contract Specialist</a> Lee, Geoff (geoff.lee@nasa.gov) <a href="#">Fetch</a>	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a> ehb1 - ( Size: 2 KB ) <a href="#">Re-Upload</a>

Done

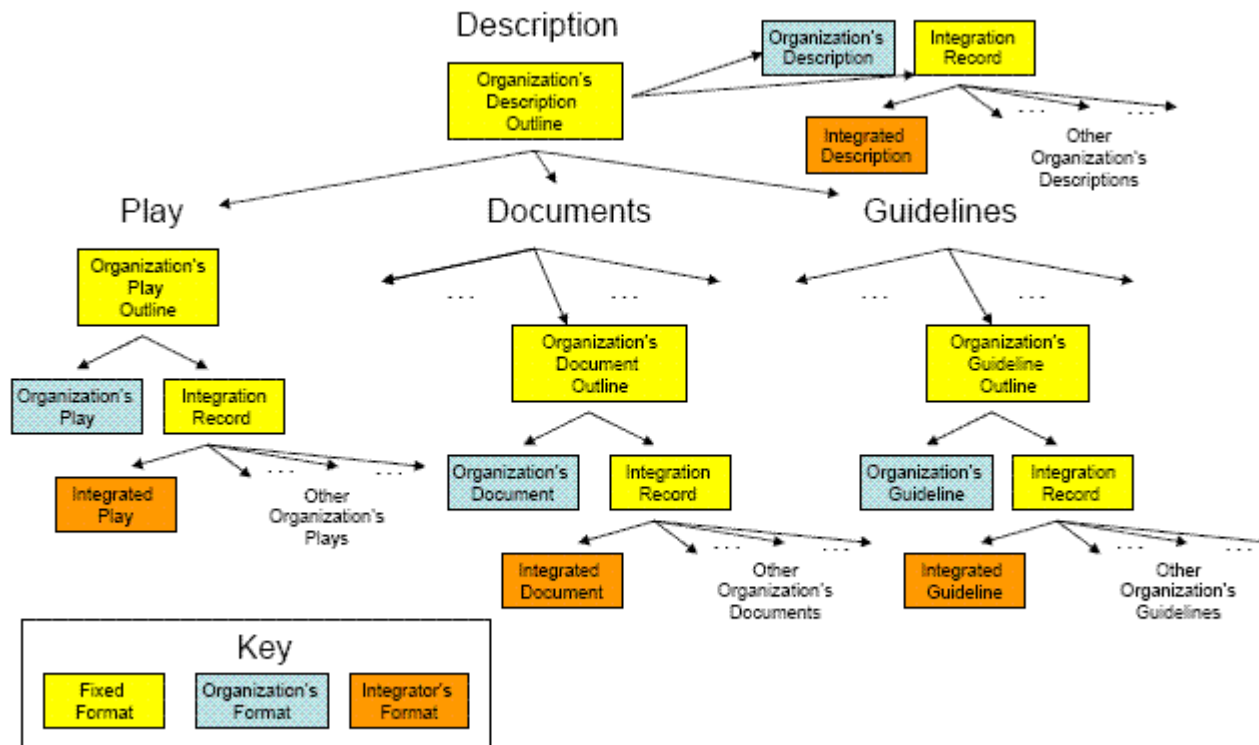


# Guidelines describe user subprocesses.



Create Guidelines	
Guidelines	
<a href="#">Advisor</a> Lee, Geoff (geoff.lee@nasa.gov) <a href="#">Fetch</a>	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a> ehb5 - ( Size: 2 KB ) <a href="#">Re-Upload</a>
<a href="#">Contract Specialist</a> Lee, Geoff (geoff.lee@nasa.gov) <a href="#">Fetch</a>	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a> ehb1 - ( Size: 2 KB ) <a href="#">Re-Upload</a>
<a href="#">Principal Investigator/Awardee Official</a> Lee, Geoff (geoff.lee@nasa.gov) <a href="#">Fetch</a>	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a> ehb2 - ( Size: 2 KB ) <a href="#">Re-Upload</a>
<a href="#">Contracting Officer Technical Representative (COTR)</a> Lee, Geoff (geoff.lee@nasa.gov) <a href="#">Fetch</a>	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a> ehb3 - ( Size: 2 KB ) <a href="#">Re-Upload</a>
<a href="#">JPL Technical Monitor</a> Lee, Geoff (geoff.lee@nasa.gov) <a href="#">Fetch</a>	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a> ehb4 - ( Size: 2 KB ) <a href="#">Re-Upload</a>
<a href="#">Field Center Program Manager</a> Lee, Geoff (geoff.lee@nasa.gov) <a href="#">Fetch</a>	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a> ehb6 - ( Size: 2 KB ) <a href="#">Re-Upload</a>
<a href="#">JPL Program Officer</a> Lee, Geoff (geoff.lee@nasa.gov) <a href="#">Fetch</a>	<a href="#">Update</a> <a href="#">Copy</a> <a href="#">Delete</a> ehb7 - ( Size: 2 KB ) <a href="#">Re-Upload</a>
<a href="#">Field Center Contracting Officer</a> Lee, Geoff (geoff.lee@nasa.gov)	<a href="#">Update</a> <a href="#">Copy</a>

# Subprocess View Tools contain the envelope of related files.



# Integration Tools facilitate subprocess integration.

Fetch Integration - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://lincoln.gsfc.nasa.gov/intro/summary/mock-ups/Integrations.htm

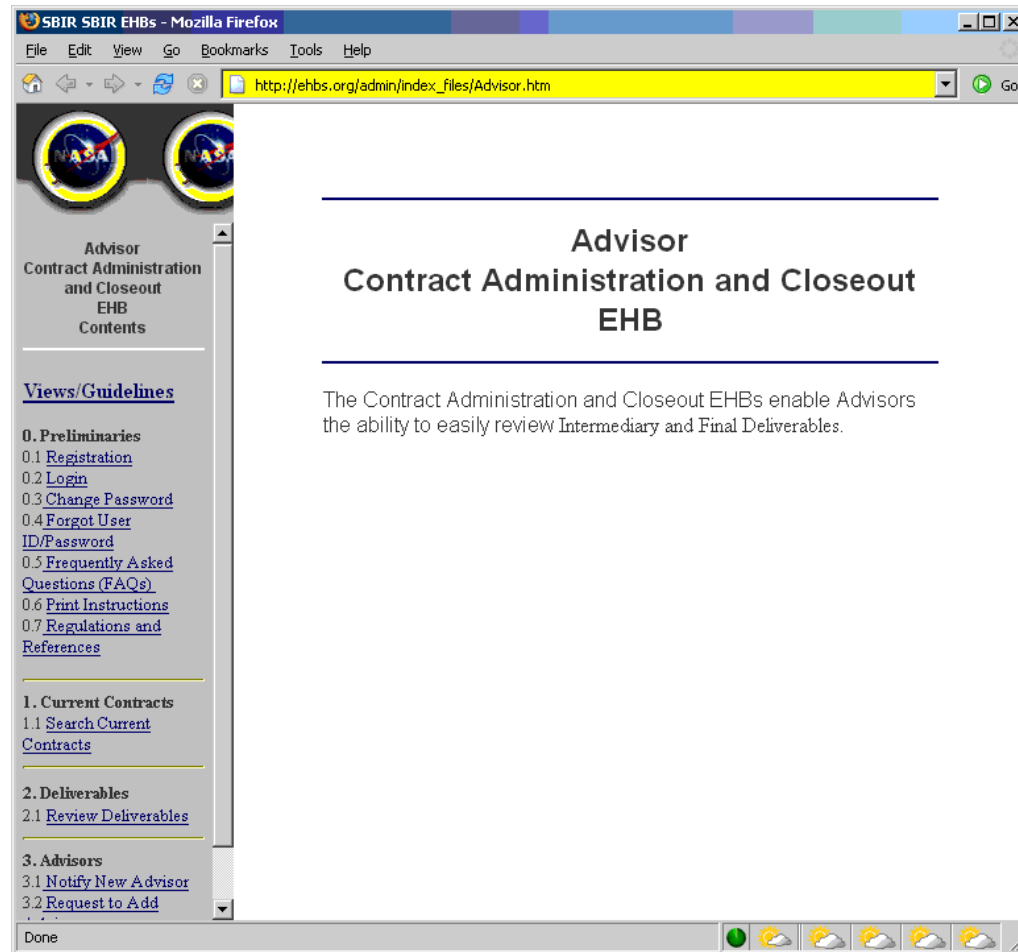
Fetch Integration

Read Integration	
Classification	Product Realization Subprocesses
Subprocess	Phase II Contract Administration
Type	Guidelines
Title	Advisor
Id	T4-4-3-00
Integration Url	<a href="#">Fetch</a>
Ordinal	33
Date Created	03-MAY-2005
Date Updated	18-MAY-2005

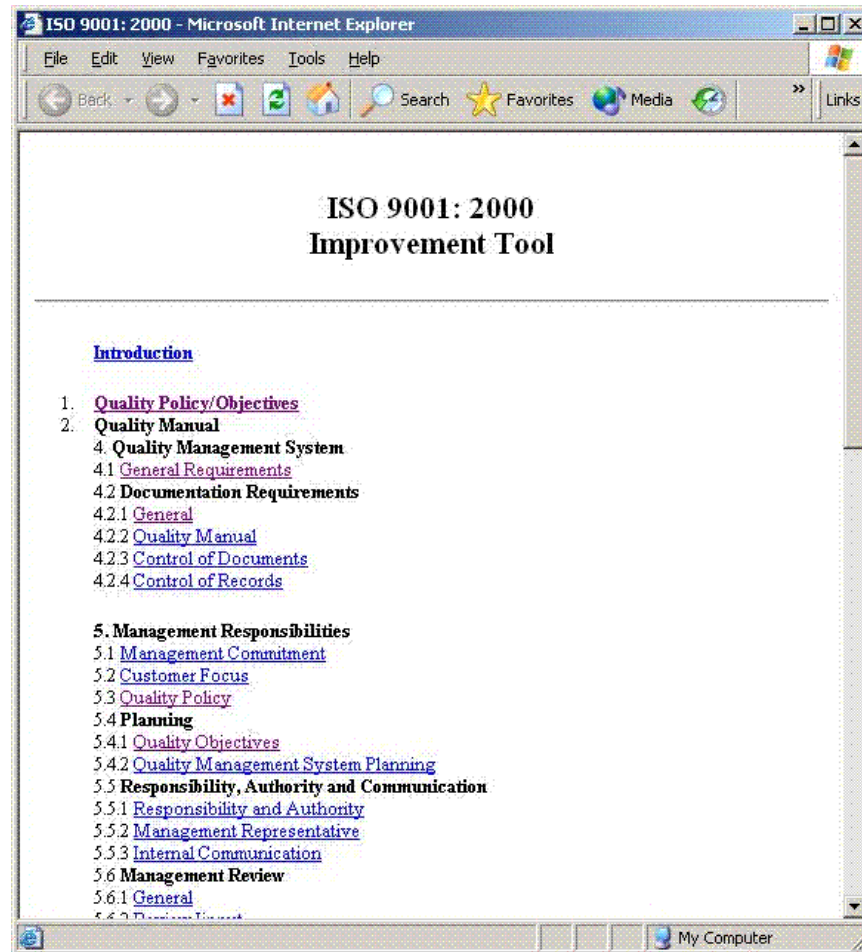
Samples From Views	
<a href="#">ARC</a> <a href="#">Fetch</a> - ( Size: 10 KB )	Date Created: 23-Jun-2005 Date Updated: 23-Jun-2005
<a href="#">DFRC</a> <a href="#">Fetch</a> - ( Size: 10 KB )	Date Created: 23-Jun-2005 Date Updated: 23-Jun-2005
<a href="#">GRC</a> <a href="#">Fetch</a> - ( Size: 10 KB )	Date Created: 23-Jun-2005 Date Updated: 23-Jun-2005
<a href="#">GSFC</a> <a href="#">Fetch</a> - ( Size: 10 KB )	Date Created: 23-Jun-2005 Date Updated: 23-Jun-2005
<a href="#">HQ</a> <a href="#">Fetch</a> - ( Size: 10 KB )	Date Created: 23-Jun-2005 Date Updated: 23-Jun-2005
<a href="#">JPL</a> <a href="#">Fetch</a> - ( Size: 10 KB )	Date Created: 23-Jun-2005 Date Updated: 23-Jun-2005
<a href="#">JSC</a> <a href="#">Fetch</a> - ( Size: 10 KB )	Date Created: 23-Jun-2005 Date Updated: 23-Jun-2005
<a href="#">KSC</a> <a href="#">Fetch</a> - ( Size: 10 KB )	Date Created: 23-Jun-2005 Date Updated: 23-Jun-2005
<a href="#">LaRC</a> <a href="#">Fetch</a> - ( Size: 10 KB )	Date Created: 23-Jun-2005 Date Updated: 23-Jun-2005
<a href="#">MSFC</a> <a href="#">Fetch</a> - ( Size: 10 KB )	Date Created: 23-Jun-2005 Date Updated: 23-Jun-2005
<a href="#">Org : Type 1</a>	Date Created: 23-Jun-2005

Done

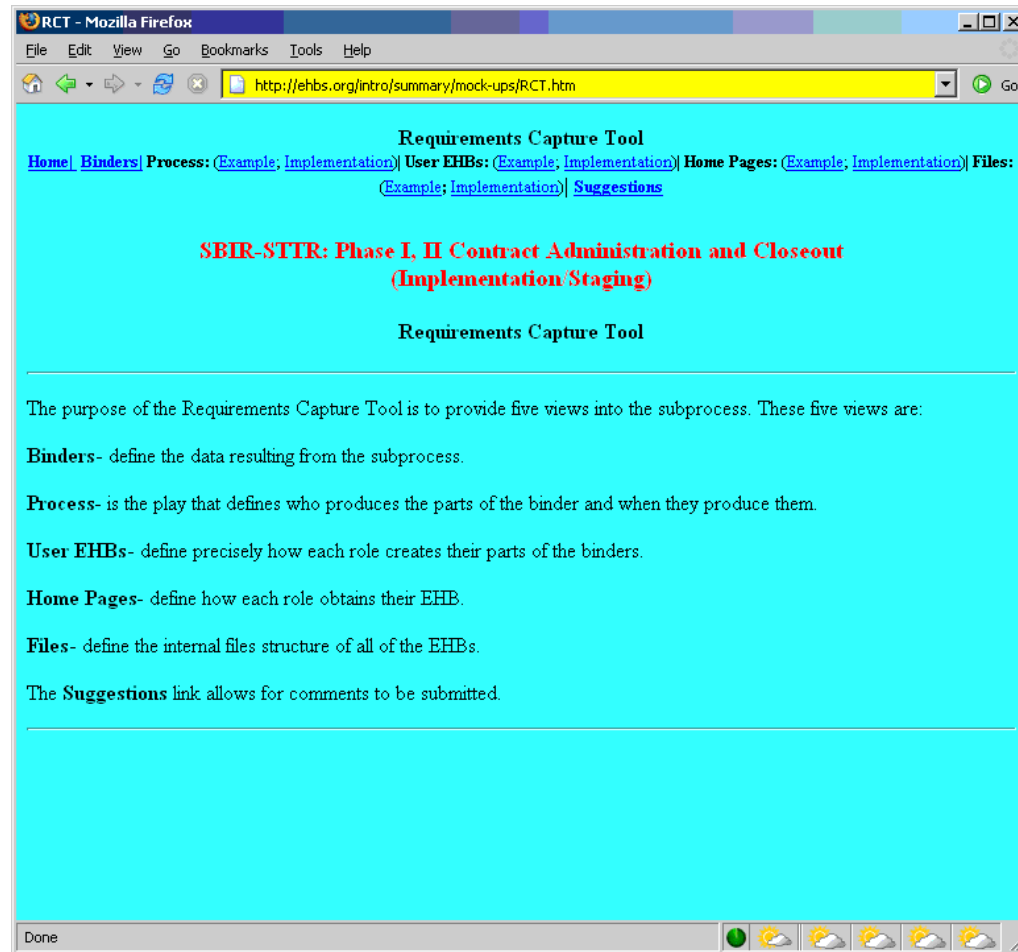
# Electronic Handbooks (EHBs) facilitate the execution of subprocesses.

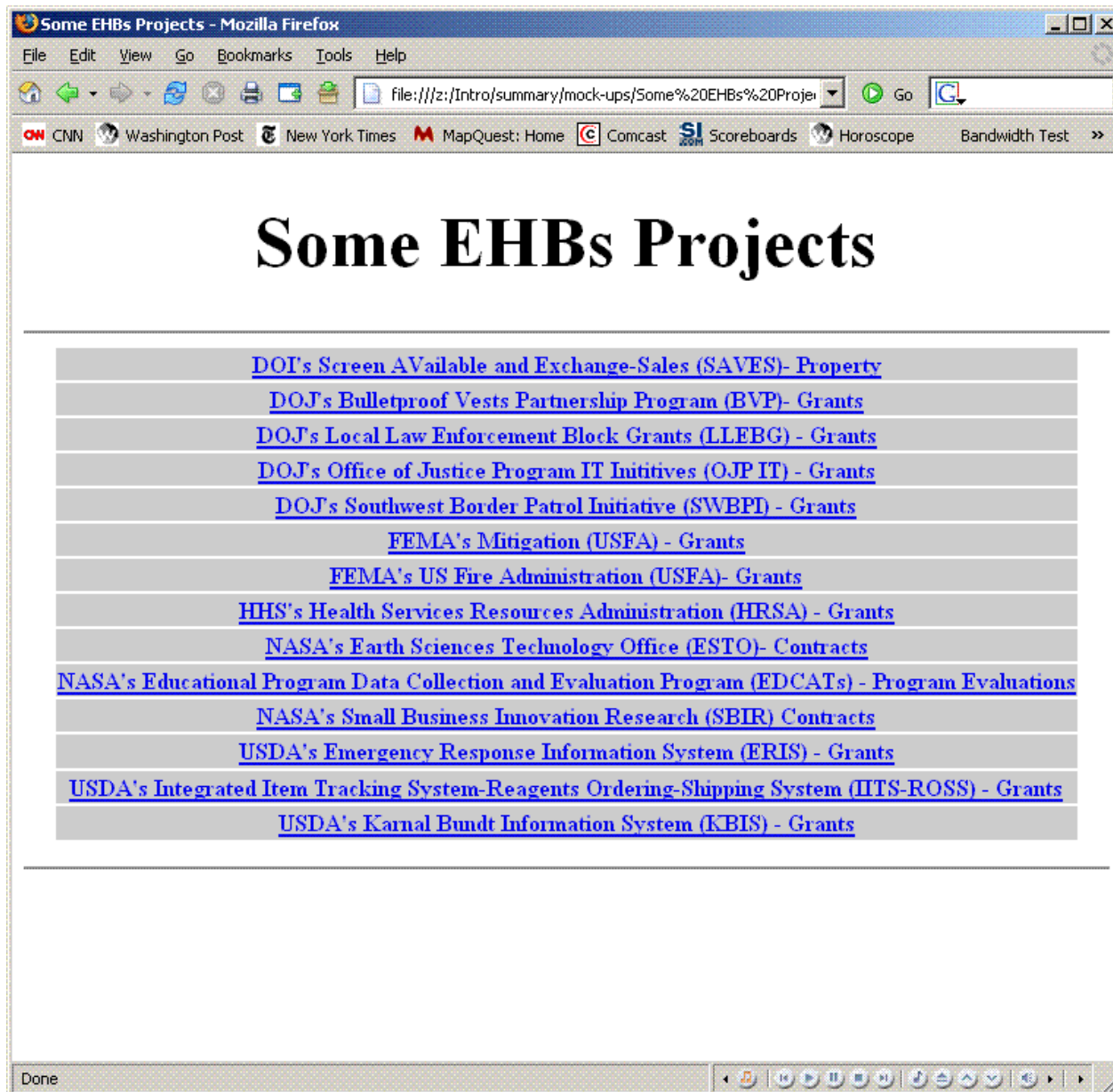


# Improvement Tools facilitate process improvement.



# Requirements Capture Tools (RCTs) facilitate subprocess view integration.





## For More Details

- Visit <http://ehbs.org/sbir> , or
- Contact:

**Dr. Barry E. Jacobs**

**[barry.e.jacobs@nasa.gov](mailto:barry.e.jacobs@nasa.gov)**

**(301) 286-5661**



# **Some Effects of Separation**

**"Men hate each other because they fear each other;  
They fear each other because they don't know each other;  
They don't know each other because they can't communicate with each other;  
They can't communicate with each other because they are separated from each other. "**

**Dr. Martin Luther King Jr.**

**September 3, 1957**